The Evening Sky Map

FREE* EACH MONTH FOR YOU TO EXPLORE, LEARN & ENJOY THE NIGHT SKY

SOUTHERN HEMISPHERE
APRIL 2014

Sky Calendar – April 2014

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3 **Moon near the Pleiades** (evening sky) at 11h UT.
4 **Moon near Aldebaran** (evening sky) at 5h UT.
6 **Moon near Jupiter** (evening sky) at 21h UT. Mag. –2.2.
7 **First Quarter Moon** at 8:31 UT.
8 **Moon at apogee** (farthest from Earth) at 15h UT (distance 404,500 km; angular size 29.5').
8 **Mars at opposition** at 21h UT. Mag. –1.5. Visible all night.
9 **Moon near Beehive Cluster** (evening sky) at 1h UT.
10 **Moon near Regulus** (evening sky) at 23h UT.
14 **Mars nearest to Earth** at 13h UT. Mag. –1.4.
14 **Moon near Mars** (midnight sky) at 18h UT.
15 **Moon near Spica** (midnight sky) at 3h UT.
15 **Full Moon** at 7:44 UT.
15 **Total Eclipse of the Moon** begins at 7:07 UT and ends at 8:25 UT. Mid-eclipse at 7:46 UT. Partial phases begin at 5:58 UT and end at 9:33 UT. The Moon will appear red-orange in color during totality (the Earth's shadow). Visible from North and South America, and much of the Pacific.
17 **Moon very near Saturn** (155° from Sun, morning sky) at 7h UT. Mag. +0.2. Occultation visible from the southern Pacific and southern South America.
18 **Moon near Antares** (morning sky) at 14h UT.
22 **Last Quarter Moon** at 7:52 UT.
22 **Lyrid meteor shower** peaks at 17:45 UT. Active April 16-25. Radiant is between Hercules and Lyra. Expect 10 to 20 bright, fast meteors per hour at its peak. Moonlight interferes with viewing conditions this year.
23 **Moon at perigee** (closest to Earth) at 0h UT (369,765 km; angular size 32.3').
25 **Moon near Venus** (morning sky) at 21h UT. Mag. –4.1.
26 **Mercury at superior conjunction** with the Sun at 3h UT. The elusive planet passes into the evening sky.
29 **New Moon** at 6:17 UT. Start of lunation 1130.
29 **Annular Solar Eclipse** (non-central) in Antarctica. Partial eclipse visible from southern Indian Ocean and Australia between 3:53 UT and 8:14 UT.

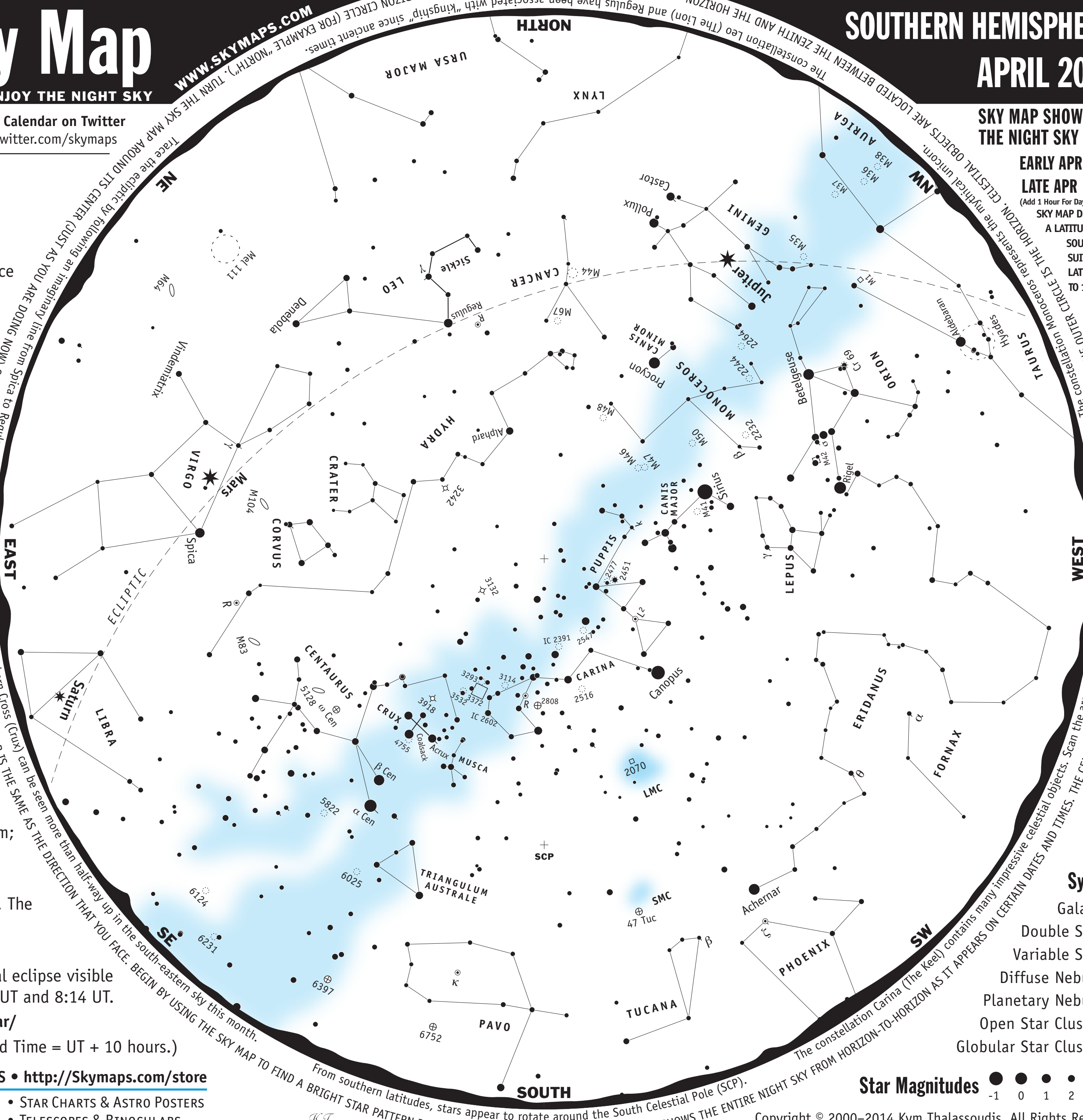
More sky events and links at http://Skymaps.com/skycalendar/

All times in Universal Time (UT). (Australian Eastern Standard Time = UT + 10 hours.)

SKY MAP SHOWS HOW THE NIGHT SKY LOOKS

EARLY APR 8 PM
LATE APR 7 PM
(Add 1 Hour For Daylight Saving)

SKY MAP DRAWN FOR A LATITUDE OF 35° SOUTH AND IS SUITABLE FOR LATITUDES UP TO 15° NORTH OR SOUTH OF THIS



INSTRUCTIONS: THE SKY MAP SHOWS THE ENTIRE NIGHT SKY FROM HORIZON-TO-HORIZON. THE CENTER OF THE MAP IS THE PART OF THE SKY DIRECTLY OVERHEAD (ZENITH) AND THE OUTER CIRCLE IS THE HORIZON. CELESTIAL OBJECTS ARE LOCATED BETWEEN THE ZENITH AND THE HORIZON. COMPASS DIRECTIONS ARE INDICATED ALONG THE HORIZON CIRCLE (FOR EXAMPLE „NORTH"). TURN THE SKY MAP AROUND ITS CENTER (JUST AS YOU ARE DOING NOW) SO THE COMPASS DIRECTION THAT APPEARS ALONG THE BOTTOM OF THE MAP IS THE SAME AS THE DIRECTION THAT YOU FACE. BEGIN BY USING THE SKY MAP TO FIND A BRIGHT STAR PATTERN IN THE SKY.

Symbols

Galaxy
Double Star
Variable Star
Diffuse Nebula
Planetary Nebula
Open Star Cluster
Globular Star Cluster

Star Magnitudes -1 0 1 2 3 4

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About the Celestial Objects

Listed on this page are several of the brighter, more interesting celestial objects visible in the evening sky this month (refer to the monthly sky map). The objects are grouped into three categories. Those that can be easily seen with the naked eye (that is, without optical aid), those easily seen with binoculars, and those requiring a telescope to be appreciated. **Note, all of the objects (except single stars) will appear more impressive when viewed through a telescope or very large binoculars.** They are grouped in this way to highlight objects that can be seen using the optical equipment that may be available to the star gazer.

Tips for Observing the Night Sky

When observing the night sky, and in particular deep-sky objects such as star clusters, nebulae, and galaxies, it's always best to observe from a dark location. Avoid direct light from street lights and other sources. If possible observe from a dark location away from the light pollution that surrounds many of today's large cities.

You will see more stars after your eyes adapt to the darkness—usually about 10 to 20 minutes after you go outside. Also, if you need to use a torch to view the sky map, cover the light bulb with red cellophane. This will preserve your dark vision.

Finally, even though the Moon is one of the most stunning objects to view through a telescope, its light is so bright that it brightens the sky and makes many of the fainter objects very difficult to see. So try to observe the evening sky on moonless nights around either New Moon or Last Quarter.

Astronomical Glossary

Conjunction – An alignment of two celestial bodies such that they present the least angular separation as viewed from Earth.

Constellation – A defined area of the sky containing a star pattern.

Diffuse Nebula – A cloud of gas illuminated by nearby stars.

Double Star – Two stars that appear close to each other in the sky; either linked by gravity so that they orbit each other (binary star) or lying at different distances from Earth (optical double). Apparent separation of stars is given in seconds of arc (").

Ecliptic – The path of the Sun's center on the celestial sphere as seen from Earth.

Elongation – The angular separation of two celestial bodies. For Mercury and Venus the greatest elongation occurs when they are at their most angular distance from the Sun as viewed from Earth.

Galaxy – A mass of up to several billion stars held together by gravity.

Globular Star Cluster – A ball-shaped group of several thousand old stars.

Light Year (ly) – The distance a beam of light travels at 300,000 km/sec in one year.

Magnitude – The brightness of a celestial object as it appears in the sky.

Open Star Cluster – A group of tens or hundreds of relatively young stars.

Opposition – When a celestial body is opposite the Sun in the sky.

Planetary Nebula – The remnants of a shell of gas blown off by a star.

Universal Time (UT) – A time system used by astronomers. Also known as Greenwich Mean Time. Australian Eastern Standard Time (Sydney, Australia) is UT plus 10 hours.

Variable Star – A star that changes brightness over a period of time.

SOUTHERN HEMISPHERE APRIL 2014

CELESTIAL OBJECTS

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Easily Seen with the Naked Eye

Sirius	CMa	●	The brightest star in the sky. Also known as the "Dog Star". Dist=8.6 ly.
Procyon	CMi	●	Greek name meaning "before the dog" - rises before Sirius (northern latitudes). Dist=11.4 ly.
Canopus	Car	●	Second brightest star in the sky. 14,000 times more luminous than the Sun. Dist=309 ly.
β Centauri	Cen	●	With Alpha Centauri, forms the so-called "Pointers-to-the-Cross". Dist=525 ly.
α Centauri	Cen	●	Nearest bright star to Sun at 4.4 ly. Brilliant double star in a telescope. 80 year period.
Coalsack	Cru	◆	Most famous naked-eye dark nebula. Requires dark sky. Dist=600 ly.
Achernar	Eri	●	Brightest star in Eridanus, The River. Arabic name meaning "end of river". Dist=140 ly.
Castor	Gem	●	Multiple star system with 6 components. 3 stars visible in telescope. Dist=52 ly.
Pollux	Gem	●	With Castor, the twin sons of Leda in classical mythology. Dist=34 ly.
Regulus	Leo	●	Brightest star in Leo. A blue-white star with at least 1 companion. Dist=77 ly.
Rigel	Ori	●	The brightest star in Orion. Blue supergiant star with mag 7 companion. Dist=770 ly.
Betelgeuse	Ori	●	One of the largest red supergiant stars known. Diameter=300 times that of Sun. Dist=430 ly.
Spica	Vir	●	Latin name means "ear of wheat" and shown held in Virgo's left hand. Dist=250 ly.

Easily Seen with Binoculars

M44	Cnc	◌	Praesepe or Beehive Cluster. Visible to the naked eye. Dist=590±20 ly.
M41	CMa	◌	First recorded observation by Aristotle in 325 BC as "cloudy spot". Dist=2,300 ly.
2516	Car	◌	Spectacular open star cluster of 100 stars spaning 1/2 deg. Dist=1,300 ly.
2808	Car	⊕	Located 4 deg W of Nu Carinae. Visible to the naked eye on clear nights.
R Carinae	Car	◉	Long period variable. Magnitude varies between 3.9 & 10.5 over 309 days.
3114	Car	◌	Stunning open cluster. 30+ stars visible through 7x binoculars. Dist=2,900 ly.
3293	Car	◌	Rich, tightly packed. Surrounded by large, faint nebulosity. Dist=8,500 ly.
IC 2602	Car	◌	The "Five of Diamonds". Bright cluster twice diameter of full Moon. Dist=491 ly.
3372	Car	□	Eta Carinae Nebula. Enormous glowing cloud in rich star field. Dist=8,000 ly.
3532	Car	◌	Herschel - "most brilliant cluster". 60+ stars in 7x binoculars. Dist=1,300 ly.
ω Centauri	Cen	⊕	Largest and brightest globular star cluster in sky. 1 million stars. Dist=17,000 ly.
4755	Cru	◌	Jewel Box. Outstanding star cluster. Many contrasting colours. Dist=7,600 ly.
LMC	Dor	⌀	Large Magellanic Cloud. A neighbouring galaxy of the Milky Way. Dist=180,000 ly.
M48	Hya	◌	12+ stars in 7x binoculars. Triangular asterism near centre. Dist=1,990 ly.
R Hydrae	Hya	◉	Long period variable. Mag varies between 3.0 & 11.0 over 390 days. Brilliant red.
γ Leporis	Lep	●	Visible with binoculars. Gold & white stars. Mags 3.6 & 6.2. Dist=30 ly. Sep=96.3".
2232	Mon	◌	A large scattered star cluster of 20 stars. Dist=1,300 ly.
M50	Mon	◌	Visible with binoculars. Telescope reveals individual stars. Dist=3,000 ly.
M42	Ori	□	The Great Orion Nebula. Spectacular bright nebula. Best with telescope. Dist=1,300 light years.
L^2	Pup	◉	Semi-regular variable. Magnitude varies between 2.6 & 6.2 over 140.42 days.
M47	Pup	◌	Bright star cluster. 15+ stars in 7x binoculars. Dist=1,500 ly.
M46	Pup	◌	Dist=5,400 ly. Contains planetary NGC 2438 (Mag 11, d=65") - not associated.
2451	Pup	◌	30+ stars in binoculars. The brightest star, χ Puppis, is red. Dist=850 ly.
2477	Pup	◌	Very rich but distant star cluster (4,200 ly). Resembles globular through binoculars.
47 Tucanae	Tuc	⊕	Spectacular object. Telescope will reveal stars. Near edge of SMC. Dist=15,000 ly.
SMC	Tuc	⌀	Small Magellanic Cloud. Companion galaxy to Milky Way. Requires dark sky. Dist=210,000 ly.
2547	Vel	◌	Fine open cluster visible through binoculars. Dist=1,300 ly.
IC 2391	Vel	◌	Omicron Velorum Cluster. Superb object for binoculars. Dist=450 ly.

Telescopic Objects

M67	Cnc	◌	Contains 500+ stars mag 10 & fainter. One of the oldest clusters. Dist=2,350 ly.
3918	Cen	✧	The Blue Planetary. Visible in a small telescope as a round blue disk.
5128	Cen	⌀	Bisected by a wide obscuring lane. Strong radio source. Dist=11 million ly.
2070	Dor	□	Tarantula Nebula. A bright nebula located in LMC. A star-forming region.
3242	Hya	✧	Ghost of Jupiter. Bright blue disk. Mag 11 central star. Dist=2,600 ly.
M83	Hya	⌀	Classic face-on spiral. Discovered in 1752 by Lacaille. In attractive star field.
γ Leonis	Leo	●	Superb pair of golden-yellow giant stars. Mags 2.2 & 3.5. Orbit=600 years. Sep=4.4".
β Monocerotis	Mon	●	Triple star. Mags 4.6, 5.0 & 5.4. Requires telescope to view arc-shape. Sep=7.3".
k Puppis	Pup	●	Telescope easily shows two blue-white stars of almost equal brightness. Sep=9.9".
3132	Vel	✧	One of the brightest planetaries. Magnitude 10 central star. Dist=2,600 ly.
M104	Vir	⌀	Sombrero Galaxy. Almost edge-on spiral galaxy. Protruding central core.
γ Virginis	Vir	●	Superb pair of mag 3.5 yellow-white stars. Orbit=169 years. At their closest in 2005.

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